

REMARKS

Reconsideration of this application is respectfully requested.

Claim 1 has been amended for clarification, and to recite that the casein hydrolysate is obtained by hydrolyzing animal milk casein with a group of enzymes comprising particular peptidases and at least one particular protease. Support for this amendment is found in the specification at, e.g., page 12, lines 7-14 and page 13, lines 2-11. Claim 1 has further been amended to incorporate the limitation of claim 2. Claim 4 has been amended to depend from claim 1. New claims 15 and 16 have been added. Support for these claims is found in the specification at, e.g., page 1, line 20 to page 2, line 9, page 13, lines 16-24, and page 23, line 10 to page 39 line 2. Claims 2 and 14 have been canceled without prejudice or disclaimer. No new matter has been added to the application. Upon entry of this amendment, claims 1, 3-13, 15, and 16 are pending. Because claims 5-13 have been withdrawn from consideration, only claims 1, 3, 4, 15, and 16 are at issue.

An initialed copy of the Information Disclosure Statement (IDS) filed October 25, 2006 was not enclosed with the April 6, 2009 Office Action. Applicants respectfully request that the Examiner confirm that he has considered the references cited in the October 25, 2006 IDS by initialing the list of references provided with it. A copy of the October 25, 2006 IDS is enclosed for the Examiner's convenience.

Indefiniteness Rejection

Claims 1-4 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. The Examiner contends that

the phrase "to have an average chain length of not longer than 2.1 in terms of the number of amino acid residues" in claim 1 is unclear.

In order to expedite prosecution, and without disclaimer, claim 1 has been amended to clarify that the average chain length of the free amino acids and peptides is not longer than 2.1 amino acid residues. Accordingly, applicants respectfully submit that claim 1 is clear and request withdrawal of this rejection.

Anticipation Rejection

Claims 1-4 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by Byun et al., *J. Agric. Food Chem.* 2001, 49, 2061-2063 ("Byun"). The Examiner argues that Byun teaches a casein composition treated with an enzyme which produces a casein hydrolysate having an average amino acid chain length of 1.46 amino acids (68.5 % hydrolysis).

The casein hydrolysate of the present invention comprises free amino acids, dipeptides with a Xaa-Pro sequence, and tripeptides with a Xaa-Pro-Pro sequence, in a particular ratio. The tripeptides recited in the pending claims which contain a Xaa-Pro-Pro sequence would not have been formed in the hydrolysis product disclosed by Byun.

Byun teaches that aminopeptidase (AP) is a non-specific enzyme with a strong ability to liberate N-terminal glycine and proline, but is unable to access the Al-Pro bond (*see* page 2062, left-hand column, last paragraph). Byun also teaches that X-prolyl dipeptidyl aminopeptidase (X-PDAP) is specific for N-terminal X-Pro and X-Ala sequences (*see* page 2062, left-hand column, last paragraph). Further information regarding the known properties of X-PDAP are disclosed in Sanz et al., *Applied and Environmental Microbiology* 2001, 67, 1815-1820 ("Sanz") which is enclosed

with this response. Sanz discloses that X-PDAP (referred to as “X-PDP” in Sanz) is unable to liberate the Xaa-Pro dipeptide from an Xaa-Pro-Pro sequence (*see* page 1817, right-hand column, lines 8-7 from the bottom; page 1819, Table 5, showing non-cleavage of the sequence Arg-Pro-Pro-Gly-Phe; and page 1819, right-hand column, lines 34-36). Thus AP and X-PDAP, either alone or in combination, cannot overcome the Pro-Pro bond and cannot access post Pro-Pro amino acids.

Since the enzymes taught in Byun are unable to access post Pro-Pro amino acids, the tripeptide Xaa-Pro-Pro called for in the pending claims could not have been obtained in Byun. Accordingly, Byun does not disclose the claimed casein hydrolysate, which contains free amino acids, dipeptides having a sequence Xaa-Pro, and tripeptides having a sequence Xaa-Pro-Pro.

For at least the reasons set forth above, reconsideration of the claims and withdrawal of the anticipation rejection is respectfully requested.

Conclusion

In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered, and that the pending claims be allowed and the case passed to issue.

If there are any other issues remaining that the Examiner believes can be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

/Jay P. Lessler/

By Jay P. Lessler, Reg. No. 41,151 for
S. Peter Ludwig
Registration No.: 25,351
DARBY & DARBY P.C.
P.O. Box 770
Church Street Station
New York, New York 10008-0770
(212) 527-7700
(212) 527-7701 (Fax)
Attorneys/Agents For Applicants